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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/719,019

11/24/2003

Sung-sik Kim

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11/15/2005

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WASHINGTON, DC 20037

EXAMINER

WANG, GEORGE Y

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/719,019	<b>Applicant(s)</b> KIM, SUNG-SIK	
	<b>Examiner</b> George Y. Wang	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/22/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of claims 1-14 in the reply filed on August 1, 2005 is acknowledged. The traversal is on the ground(s) that "the claims of Group I and II are so inextricably interrelated that either group of claims cannot be comprehensively examined without also searching those areas in which the other group is classified. This is not found persuasive because the non-elected method has a separate and distinct classification pertaining to the specifics of the switching/driving a display. Even though the method is related to the elected device, it is not "inextricably interrelated" so that searching one area overlaps with the other. As a result, search and examination of the non-elected method within another classification would be a serious burden.

The requirement is still deemed proper and is therefore made FINAL.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on October 22, 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admission of Prior Art (AAPA) in view of Popovich et al. (U.S. Patent No. 6,525,847, hereinafter "Popovich").

5. As to claim 1, Popovich discloses a display apparatus for selectively display a two-dimensional (2D) image and a three-dimensional (3D) image (title), the display apparatus comprising a flat panel display device (fig. 20, ref. 405) which generates a two-dimensional image, and a switching panel ("holographic optical element," fig. 20, 420, 470, HOE) which is disposed in front of the flat panel display device to be separated from the flat panel display device by a predetermined distance and is controlled according to a type of image generated by the flat panel display device so that the 2D image and the 3D image can be displayed (abstract; col. 23, line 36 – col. 24, line 61).

However, the reference fails to specifically disclose a flat panel display device where a plurality of viewpoint images having parallax is generation when 3D image display is requested.

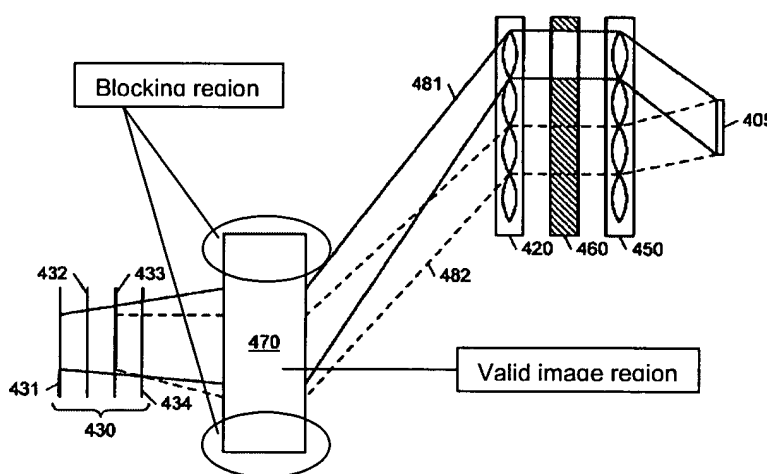
AAPA discloses a conventional 7-point 3D display device where a plurality of viewpoint images is generation when 3D image display is requested (p. 3, [07]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a flat panel display device with a plurality of viewpoint images having parallax to be generated when 3D image display is requested since one would be motivated to not only provide horizontal and vertical parallax ([07]), but also to provide simple means of generating a general 3D image by displaying different view images ([05]) with common applications in lenticular method and Integral Photography ([05]).

6. As per claim 2, Popovich discloses the display apparatus as recited above having a structure corresponding to pixel information of the flat panel display device when a plurality of viewpoint images for forming 3D image are generated by the flat panel device (col. 23, lines 36-60).

(Note: the limitation "is formed to transmit light as it is when the two-dimensional image is generated by the flat panel display device" is not given patentable weight because a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.)

7. As to claims 3-4 and 10-12, Popovich discloses the display apparatus as recited above having a switching panel (470) with valid image display region to transmit light and a selective blocking region to block light (see circled/label areas in fig. 20 reproduced below for convenience).



Furthermore, Popovich discloses that the valid image display region can be adjusted to any size (col. 25, lines 35-59) and satisfies the formulaic expressions of claims 10-12 where Popovich discusses adjusting size and viewing distance according to the Rayleigh two-point criteria (col. 25, lines 35-39).

8. Regarding claims 5-8, Popovich discloses the display apparatus as recited above where the switching panel is a liquid crystal display (fig. 1, ref. 10; col. 5, lines 45-61) designed to turn on and off light according to a control signal (col. 10, lines 22-38), and where the flat panel display device is an LCD display (405).

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9. As per claim 9, Popovich disclose the display apparatus as recited above where the flat panel display device generates images in a nxn matrix in each pixel (col. 23, line 61 – col. 24, line 3; col. 25, lines 38-51).

10. As to claims 13-14, Popovich discloses the display apparatus as recited above further comprising a visual field expansion unit having a first (450) and second (420) lens plate.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

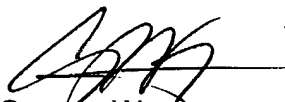
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'George Wang', is written over a horizontal line.

George Wang  
Patent Examiner  
AU 2871

November 14, 2005